

REMARKS/ARGUMENTS

This is a Response to the Office Action mailed November 1, 2006, in which a three (3) month Shortened Statutory Period for Response has been set, due to expire February 1, 2007. Fifteen (15) claims, including three (3) independent claims, were paid for in the application. Claims 2, 8 and 13 have been canceled without prejudice. Claims 1, 5-7, 10-12 and 15 are currently amended. New claims 16 and 17 have been added. No new matter has been added to the application. The fee for one (1) additional independent claim is due by way of this Amendment. The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090. Claims 1, 3-7, 9-12 and 14-17 are pending.

Rejections Under 35 U.S.C. § 112, First Paragraph

Claims 12-15 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement because claim 12 is an apparatus claim having a method step of “setting information” as a limitation.

Claim 12 has been rewritten to comply with the enablement requirement. In particular, claim 12 has been rewritten to include “the recording powers are set with information required for setting the recording powers of a top pulse and/or a last pulse of the laser beam,” instead of the “setting information” method limitation.

Thus, claim 12 is allowable under 35 U.S.C. § 112, first paragraph, as are claims 13-15, which depend therefrom.

Rejections Under 35 U.S.C. § 103

Claims 1-4, 7-9 and 12-15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyamoto et al. U.S. Patent No. 6,236,635 (hereinafter “Miyamoto”) in view of Ito et al. U.S. Patent No. 5,768,251 (hereinafter “Ito”).

The disclosed embodiment of the invention will now be discussed in comparison to the applied reference. Of course, the discussion of the disclosed embodiment, and the discussion of the differences between the disclosed embodiment and the subject matter described

in the applied reference, do not define the scope or interpretation of any of the claims. Instead, such discussed differences merely help the Examiner to appreciate important claim distinctions discussed thereafter.

The illustrative and non-limiting embodiments of the present application are directed to an optical recording medium including a first information recording layer on a second information recording layer. A pulse-like laser beam having modulated power is projected onto the optical recording medium via a light incidence plane disposed thereon and information may be recorded onto the first or the second information recording layer. The first information recording layer is located on the side of the light incidence plane with respect to the second light incidence plane. A top pulse and/or a last pulse of the laser beam is set lower than a recording power of a multi-pulse thereof when information is to be recorded in the first information recording layer. The top pulse and/or the last pulse of the laser beam is set to be substantially the same as the multi-pulse thereof when the information is to be recorded in the second information recording layer.

The Office Action contends that Miyamoto discloses the first information recording layer located on a side of the light incidence plane and that it would be inherent that if a two sided disk 60 of Ito were to be placed in the apparatus of Miyamoto, by combining the teachings of Miyamoto and Ito, the first recording layer would be located on the light incidence side in relation to the second recording layer. This interpretation of the combination of Miyamoto and Ito is respectfully rejected herein.

Miyamoto teaches an optical recording medium having a single recording layer and is silent with regard to positional information of the single recording medium. Ito teaches one side type disks 66A, 66B adhered to provide one disk 60 of two sides having a first and a second recording layer 65A, 65B opposite each other (col. 13, lines 1-5).

In contrast, amended independent claim 1 recites, *inter alia*, “at least first and second information recording layers in which information can be recorded by projecting a pulse-like laser beam...the first information recording layer is located on a side of the light incidence plane with respect to the second information recording layer.” (Emphasis added.)

Additionally, both of amended claims 7 and 12 recite, *inter alia*, “the first information recording layer is located on a side of the light incidence plane with respect to the second information recording layer.” (Emphasis added.)

The optical recording layer disclosed in Miyamoto includes only a single recording layer. Since Miyamoto is silent on the positioning of the single recording layer, the single recording layer can be construed to be located on a side opposite the light incidence plane. Therefore, it is unreasonable to consider that the combination of the teachings of Miyamoto and Ito inherently discloses having the first recording layer positioned on the side of the light incidence plane. In particular, when combining the disk 60 of Ito with the recording medium of Miyamoto, the single recording layer of Miyamoto may be located on the side opposite the light incidence plane and does not necessarily have to be located on the side of the light incidence beam.

Furthermore, the Office Action asserts on page 4, with regard to claim 4, that it would be inherent that if a two-sided disk 60, as disclosed by the combination of Miyamoto and Ito, were to be flipped so that the second side can be recorded upon then the apparatus of Miyamoto can record marks using multi-pulse trains as shown in Figure 11 of Miyamoto.

Thus, in discussing claim 4, page 4 of the Office Action clearly asserts that the first recording layer is located opposite the light incidence side. Such an assertion contradicts the contention previously laid out in the Office Action and denies that it would be inherent that if the two-sided disk 60 were to be placed in the apparatus of Miyamoto, as disclosed in the combination of Miyamoto and Ito, the first recording layer would be located on the light incidence plane in relation to the second recording layer.

In addition, Figures 11 and 12 of Miyamoto show pulse train patterns used for recording information in the single recording layer. Miyamoto explicitly states that the pulse train pattern shown in Figure 11 is particularly suitable to effectively suppress jitters (col. 12, lines 1-3) while the pulse train pattern shown in Figure 12 is particularly effective in the case where the bean spot diameter is between 0.8 μm to 1.3 μm and the shortest bit length is between 0.25 μm to 0.35 μm or the shortest length of the mark position is in the range of 0.35 μm to 0.5 μm .

(col. 13, line 66 to col. 14, line 6). Miyamoto assumes that either of the pulse train patterns, as shown in Figures 11 and 12, is selectively employed in accordance with the intended object.

Therefore, if the disk 60 of Ito was set in the apparatus of Miyamoto it would be extremely difficult for one with ordinary skill in the art to be motivated to modulate a power of the laser beam using the pulse train pattern of Figure 12 of Miyamoto when the single recording layer of Miyamoto is located on the side of the light incidence plane and to modulate the power of the laser beam using the pulse train pattern of Figure 11 when the single recording layer of Miyamoto is located on the side opposite the light incidence plane.

Consequently, Miyamoto and Ito, whether alone or in combination, do not disclose, teach or suggest all the limitations of amended independent claims 1, 7 or 12. In particular, the combination of Miyamoto and Ito does not disclose teach or suggest positional information of the first recording layer, as recited in each of amended independent claims 1, 7 and 12. Thus, claims 1, 7 and 12 are believed to be allowable as are claims 3-4, 8-9 and 13-15, which depend therefrom, respectively.

Claims 5, 6, 10 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyamoto et al. U.S. Patent No. 6,236,635 (hereinafter “Miyamoto”) in view of Ito et al. U.S. Patent No. 5,768,251 (hereinafter “Ito”) and further in view of Suzuki U.S. Patent No. 6,771,579.

The Office Action rejects claims 5-6 and 10-11 based on the contention that the combination of Miyamoto and Ito discloses all the limitations of independent claims 1 and 7, respectively, while Suzuki discloses each of the respective limitations of claims 5-6 and 10-11.

As discussed above, Miyamoto and Ito, whether alone or in combination do not disclose, teach or suggest all the limitations of amended independent claims 1 and 7. Suzuki does not cure the deficiencies of Miyamoto and Ito. Suzuki teaches an optical recording method for an optical recording medium having a recording layer containing an organic colorant on a transparent substrate. Furthermore, Suzuki fails to provide a motivation to combine the teachings of Miyamoto and Ito such that a first information recording layer is located on a side of a light incidence plane with respect to a second information recording layer, as recited in amended claims 1 and 7.

Thus, based on the allowability of claims 1 and 7, as discussed above, and because Suzuki fails to cure the deficiencies of Miyamoto and Ito, claims 5-6 and 10-11 are allowable.

New Claims 16-17

Newly added claim 16 recites, *inter alia*, “setting the recording power of a top pulse and a last pulse of the laser beam to a substantially equal level.” (Emphasis added.)

The discussion of claim 3 on page 4 of the Office Action contends that figure 12 of Miyamoto discloses that a recording power of a top pulse and a last pulse are set to be at the same level. However, Figure 12 of Miyamoto clearly indicates that the recording power of the top pulse is set higher than the recording power of the last pulse. Thus, according to Figure 12 of Miyamoto, the recording power of the top pulse and the recording power of the last pulse are not set to be at the same level.

Consequently, newly added claim 16 is believed to be allowable as is claim 17, which depends therefrom.

Conclusion

Overall, the cited references do not singly, or in any motivated combination, teach or suggest the claimed features of the embodiments recited in independent claims 1, 7, 12 and 16, and thus such claims are allowable. Because the remaining claims depend from the allowable independent claims, and also because they include additional limitations, such claims are likewise allowable. If the undersigned attorney has overlooked a relevant teaching in any of the references, the Examiner is requested to point out specifically where such teaching may be found.

In light of the above amendments and remarks, Applicants respectfully submit that all pending claims are allowable. Applicants, therefore, respectfully request that the Examiner reconsider this application and timely allow all pending claims. Examiner Giesy is encouraged to contact Mr. Carlson by telephone to discuss the above and any other distinctions between the claims and the applied references, if desired. If the Examiner notes any

Application No. 10/505,194
Reply to Office Action dated November 1, 2006

informalities in the claims, he is encouraged to contact Mr. Carlson by telephone to expediently correct such informalities.

Respectfully submitted,
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